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THE FIELD ARTILLERY DILEMMA: NTC LESSONS LEARNED
TO BELIEVE OR NOT TO BELIEVE?

BY

LIEUTENANT COLONEL (P) C. RAYMOND SHAW, JR.

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FA, EN, ADA, and Logistics. Initially the evaluation resources were established to platoon level for maneuver forces but FA was only evaluated at the maneuver interface level, the Fire Support Officer (FSO). In 1985 resources were added to provide Observer/Controllers (OC) to FA battery level. The most professional and seasoned Observer/Controllers reconstruct every collective task for cause and effect and provide feedback on the spot in After-Action Reviews (AAR). FA lessons learned have been forwarded through TRADOC/CAC to Ft. Sill for comment and evaluation where those deficiencies on the whole have been rationalized away or the executing FA battalion is described as poorly trained. The FA community is well behind the Infantry and Armor communities in using the NTC as a collective training laboratory and has not taken the opportunity to make needed changes in FA doctrine, tactics or techniques.

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The Field Artillery Dilemma: NTC Lessons Learned
To Believe or Not to Believe?

An Individual Essay

by

LTC(P) C. Raymond Shaw, Jr.

Colonel Edmund Glabus, IN
Project Advisor

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ABSTRACT

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Since its inception as a Combined Task Force, Collective Training Evaluation arena, the National Training Center (NTC) has told the Field Artillery Community that there are vital training deficiencies, doctrinal deficiencies and the dire need for direct Field Artillery School involvement in fire support problems and their solutions. The NTC was initially designed to evaluate Mechanized and Armor Task Forces in the conduct of Task Force level collective tasks while integrating the support assets of FA, EN, ADA, and Logistics. Initially the evaluation resources were established to platoon level for maneuver forces but FA was only evaluated at the maneuver interface level, the Fire Support Officer (FSO). In 1985 resources were added to provide Observer/Controllers (OC) to FA battery level. The most professional and seasoned Observer/Controllers reconstruct every collective task for cause and effect and provide feedback on the spot in After-Action Reviews (AAR). FA lessons learned have been forwarded through TRADOC/CAC to Ft. Sill for comment and evaluation where those deficiencies on the whole have been rationalized away or the executing FA battalion is described as poorly trained. The FA community is well behind the Infantry and Armor communities in using the NTC as a collective training laboratory and has not taken the opportunity to make needed changes in FA doctrine, tactics or techniques. *Keywords: these*

The FA Dilemma: NTC Lessons Learned,
To Believe or Not to Believe?

The purpose of this paper is to present a strategy which will allow the FA community to close the readiness gap that has been created by an inability to effect change in recognition of recurring deficiencies identified at the National Training Center (NTC). For the last seven years the National Training Center leadership has been telling FA commanders and the Field Artillery Center that we, the US Army, have a problem in that our FA units cannot satisfactorily perform the tasks of moving, shooting, and communicating in support of maneuver in a mid-intensity conflict.

In a visit to the NTC on 4-5 December 1986, the Vice Chief of Staff of the Army, General Thurman expressed great concern over the inability of FA units at the NTC to deliver effective and timely fires on the enemy.¹

Those deficiencies were described in detail by a former Squadron Commander in the 24th Division who subsequently ran the live fire exercise at the NTC from December 1984 through July 1986.

"During my 18 months at the NTC as live fire combat training chief, I ran over 60 iterations of Task Force Defense, day and night. Of those 60 iterations, not over 20 were satisfactory in placing accurate indirect fire on advancing target arrays in a timely manner. It should be kept in mind that those were units which prepared for the exercise at home base and some of which came back two times during my tenure. I believe that the FA community has not recognized the extent of its problem or acknowledged the seriousness of it. In the

30 offensive live fire scenarios I ran, no more than half ever successfully placed fire on target arrays in a timely manner and very few ever were able to mass two or more batteries on one target array."²

In January 1987, the Commander, CAC directed the Commander, US Army Field Artillery School to "take the lead" in solving the recurring NTC problems listed below:

- Tactical Coordination of Air Space Coordination Areas (ACA).
- Synchronization of fire support assets on the battlefield.
- Execution of Fire Plans.
- Integration of mortars into the fire support system.
- Manning of fire support slots with experienced officers.
- Fire support to the brigade rear area.

He went on to identify the perceived root cause to be in training procedures (techniques) at both institution and home station.¹

These are not new problems and they have been surfaced, addressed and not fixed for the last ten years. Interview with personnel in US Army Field Artillery Directorate of Evaluation and Standards (DOES) revealed that these deficiencies have been viewed, reviewed, studied, and addressed for years with no substantive change to doctrine, tactics or techniques.⁴

It would appear valid to assume that if the assessment of FORSCOM FA battalions shows such deficiencies, that there is a corresponding gap in our reported readiness to go to war and our ability to execute critical battle tasks.

Such incriminating information is in itself easy to reject because, if accepted, it would be inherent to a self-finding of guilt as a Field Artilleryman. Having been part of the NTC experience as Commander of a 155 Bn at Ft. Sill, Oklahoma, a III Corps Artillery unit, I experienced the problems and saw the causes. The battalion, using the Fire Support Teams (FIST) and FSO's (Fire Support Officers) of the 24th Infantry Division Artillery, deployed to the NTC in rotation as a Direct Support battalion. The battalion was also the first to deploy as a total digital battalion with TACFIRE, BCS (Battery Computer System), VFMED (Variable Format Message Entry Device), and DMD (Digital Message Device). It is not my intent to tell how we did it better or different for we suffered the same feeling of being overwhelmed by the duplicated forces of war in a hostile environment that everyone else does. It was also the best training environment I have ever experienced. I would like to present some concerns I have carried with me which were indicative of failings in our technical and training systems which I believe still exist today without cure. The causes are interrelated between hardware, doctrine, tactics and training techniques as they relate to the violently changing nature of warfare.

TACFIRE, the Field Artillery Tactical Fire Control Computer System drastically changed the Field Artillery system and we do not or cannot make it work very well. The system changed procedures, workloads and pressure points in areas we did not expect.

FIST was fielded as a valid concept with a very fundamental requirement--it must be operated by very experienced personnel. Today, ten years after its implementation, we find the same criticism from maneuver commanders--too many inexperienced fire support officers! The dilemma of the artillery commander is where to build experience, at the guns and TACFIRE or at the maneuver interface. Unfortunately, in peace time, commanders most often choose the former.

Finally, we still have weapons systems, with the exception of Multiple Launched Rocket System (MLRS) which cannot maneuver with the speed or mobility of Abrams Tanks (M1) or Bradley Fighting Vehicles (M2).

The National Training Center is the only place in the free world today where under near combat conditions units can train, evaluate and feedback all systems. Predictably units will train at home station to the standard they set and as a result predict a state of readiness; but when presented with NTC scenarios, they fail. One could also conclude that if required to deploy on short notice, those same failings would exist and there is no time for "quick fix" on a violent battlefield.

Between the years 1977 and 1984, I participated as a Bn S-3, Bn XO, or Bn Commander in five Battalion External Evaluations under live fire conditions and one full rotation to the NTC. I also administered External Evaluations to eight different battalions and 19 batteries. Those evaluations were run under conditions ranging from completely manual computation of firing data to par-

tial computation by computer using FADAC, to total automation using TACFIRE/BCS. From those experiences I concluded that Field Artillery Gunnery is fast becoming a lost art. The unit which could accurately fire for effect on a rapidly developing battlefield was the exception rather than the rule. We have accepted a degradation of standards to where rounds "in-the-vicinity" of a target are acceptable. "ARTEP" has become synonymous with achieving mediocrity and "identification of training deficiencies" has become a substitute for "Not Ready." These comments do not include or apply to our nuclear delivery and nuclear assembly training which remains at the same high standard as ever.

The problems of hardware must be dealt with in terms of modification work-arounds and ultimately the fielding of new systems. The Army needs to move the follow-on system to TACFIRE and the follow-on Direct Support Cannon system up in priority and the interim shortfalls must be compensated for in training.

Experienced fire support officers can be obtained through commander commitment and intensive training.

We must also recognize that the evolution of an automated fire support system has front loaded the major stress point at the Fire Support Officer (FSO) where it used to be at the Battalion S-3. Technology has in fact speeded up target acquisition and target opportunity to the point that queing in the system overwhelms decision makers at every point from Observer, Fire Support Officer, Fire Direction Officer and gun chief.

Additionally, the TACFIRE system allows technicians to run the battle rather than the tactician unless procedures are demanded to include the Bn S-3 and Bn CO in the tactical decision making chain. The system also requires such intense and repetitive training cycles that units are extremely vulnerable to the loss of key personnel and the ensuing degradation of readiness in the most demanding warfighting tasks.

The most common criticism of FA at the NTC in a live fire defense is that fires are not placed on advancing target arrays. They are fired late, behind advancing target arrays, or early, having little or no effect. The analysis of FA performance always shows that the contributing factors were: too many targets were attacked or planned for attack; poor prioritization of targets; failure to place observers in position to observe the battlefield; and lastly, the system takes too long to adjust fire on a target of opportunity.² This reflects the result of institutional training in which we are still teaching techniques from the Korean War era designed to attack slowly moving human targets.

Successful units use a system whereby a few targets are developed either in a deliberate or hasty fire plan and then prioritized with the maneuver commander and coordinated with all fire support resources. Fire units are laid, loaded and ready on those targets where the enemy is suspected to appear or planned to be canalized. Targets are grouped along avenues of approach and fired in series. The method of control is Fire for Effect

with a battery adjusting, if necessary, and massing all available fires where the enemy is stopped by obstacles or direct fire. That system maximizes the effect of the limited resources available and places sufficient combat power at the enemy center of gravity. One may read these comments and beg that they argue the obvious. The key point is that our new officers who serve as FIST chiefs and our Forward Observers are still being taught to locate a target of opportunity, adjust fire on it and then fire for effect.⁵ That standard of instruction needs to change. We must teach our officers to be experts in target location before the threat materializes and to be prepared to orchestrate the battle with ready assets rather than each company size element fighting one little insignificant battle in its area of operation (AO). We need to teach and practice hasty fire plans simply conceived and expertly executed. Templating of targets and streamlining delivery procedures from FIST to the fire units need to be standardized and practiced "ad infinitum." Such practice or instruction is not the case today and combined with the inexperience of FIST Chiefs and FSO's collectively contributes to the overall fire support deficiency.

If the thesis is accepted that there has been a degradation of fire support capability and readiness, then to what is it attributable? I believe it is the method of evaluation we use. On the whole, we have allowed a decentralization of collective training to the imagination of every Battalion Commander and even Battery Commander and allowed him to tell the system whether his unit is ready or not. It was argued in the USAWC study

by LTC George Harmeyer, dated 7 May 1986 that more objective measurement of readiness is needed to provide a valid measurement of readiness on the 2715, Unit Status report.³ I agree. I believe that on the whole our home station training and evaluation systems do not measure nor produce the needed output and thus change is needed there to produce valid and verified training scenarios with realistic presentation of targets whether in simulation or live fire.

The Army has universally directed in FC 25-100 that all units have a Mission Essential Task List (METL). It has also been accepted that we doctrinally develop that list based on the Battle Focus and then subsequently structure training and evaluation. The total FA community needs to take a centralized approach and structure an evaluation system that is first valid (measures those critical tasks it is designed to measure) as well as verified (trains units as expected and increases skill levels).

It has been said that evaluation drives training and that statement can mean different things. Evaluation does drive training--but for better or worse? Evaluation can teach and reinforce bad habits as well as good ones. The key to quality training is the quality of evaluation scenarios and standards set by evaluators and the ensuing retraining to standards. Task prioritization is too critical to be left at Company or Battalion level where demands far outreach resources and readiness can be sacrificed for survival. If one accepts the problem and

identifies the cause then the solution should be obvious. Such has not been the case.

In this case where organizations are trying to make up lost ground, a centralized structure of the training requirement and monitored evaluation offers the best solution. One of the most sophisticated examples of collective training techniques with frequent evaluation can be found in professional football. That sport capsulizes the best example of the need for both sound management and dynamic leadership. In drawing a comparison, one should look at the Vince Lombardi era and his style of football and training which closely duplicates the disciplined nature of our profession. Lombardi tactics should be preferred when compared to those of the San Diego Chargers who dazzle and dazzle you every week, but frequently end up on the short end of the stick. Lombardi was a winner because he understood the fundamental of imposing his will on the will of the other team to paraphrase Clausewitz. His style was simple-five basic plays designed to mass at the point of attack and practiced to perfect execution. It did not offer much deception on the surface but ultimately it offered the perfect setup for surprise. Lombardi built his system around discipline and drill. Those two qualities were wrapped tightly around a simple and effective strategy. His teams practiced every day the same steps and moves they performed on Sunday. Nothing fancy, just hard and effective. An Army should practice the same way. The key to Lombardi was the fact that his genius designed the plays which

his assistant coaches taught and drilled. That vision is needed in today's training strategy.

This analogy is used to make the point that such a philosophy is the most promising one in the profession of arms. In the fog of battle there are very few tricky maneuvers at the battalion level. All activities require discipline and the steadfast performance of critical tasks over and over again. The question is then, how does one insure that units comprising a force have first identified the critical tasks and then are trained to such a standard while confronted with the myriad of peace time requirements, constant personnel turbulence and the inexperience of one's junior leaders?

In the Field Artillery we must first prioritize our game plan and strategy. Lombardi believed that the run set up the pass. Bart Starr's famous touchdown passes on third and short were not set up by his fake or Hornung and Taylor's running ability. They were the result of a strategy which was so predictable it was unpredictable. We should train the same way. Units should be given established scenarios and target arrays and required to practice until they can execute to perfection.

The discussion of "principle merit" in warfighting always evolves to the comparison of mass and maneuver. The answer to the question of one being more important than the other is always subject to an evaluation of the threat. I believe that the most important and critical task of indirect fire in warfighting

is mass. Maneuver gives you the ability to preserve the resources for that task but the critical task to accomplish at the operational level of war is MASS. Every training scenario must measure that ability.

The Field Artillery community reacted strongly and perhaps overreacted to the lessons learned from the Arab/Israeli war in 1973 over the devastation wrought by enemy counterbattery fire on Israeli artillery. In training, we began to overemphasize dispersion and maneuver to preserve our outnumbered artillery resources to an extent that maneuver forces could not count on massed fires due to the artillery always being on the move. This reaction was in part a splinter of the Active Defense doctrine practiced by heavy task forces. General Cavazos, a truly renowned teacher and leader, continuously preached that the most devastating fear on the battlefield should be surviving the ponderous and devastating artillery fire practiced by the Soviets. Those fires represent the ultimate effect of the fundamental of mass and I believe U.S. field artillery battalions and brigades must have "mass" as the priority battle task.

The key requirement is to correctly design and define the drill. TRADOC has begun that task through AMTP. Drills should be standard in every Division Artillery and Brigade. Using those drills, evaluation would then drive readiness to a higher standard. Habitually, units like to go to the field and work from easiest task to most difficult. If allowed, that philosophy

produces a mentality which says we can "train up" for deployment. In fact what happens, is that very few units every get to the most difficult tasks and they return to garrison with the same deficiencies they brought due to the infrequency of field exercises.

Battle ready units standardize their scenarios, drills, and external evaluations. In order to accomplish that task in every FA unit, changes are needed in resourcing of training. At every U.S. training facility in the world today, except Ft. Irwin, field artillery targets are hard, stable targets which have been emplaced years ago in either a circular or linear configuration to which every FO soon commits the grid to memory. In order to cause a unit to engage a particular target a controller has to paint a word picture for an observer and then see through ammunition expenditure, if the picture was painted correctly. We need a way to cause targets to be presented in arrays, groups and as if moving. At the NTC it is done with electrically controlled targets which are popped up for a given time period and protected from everything except direct hits. That is the best technology available, but cheaper alternatives could be used. The attachment of pyrotechnic apparatus to existing hard targets using an electronic actuator system, would allow the identification of several targets in group or sequence to an observer who has spent his time preparing targets across an entire battle area. One could also mount hard targets on rails and physically move them or use lights at night to identify target

arrays for attack. These are imperfect thoughts which illustrate the requirement. They may not represent in any way a final solution. The FA School is still trying to perfect a simulation device with MILES which will assess effects on maneuver from either enemy or friendly artillery fire. Once that device is perfected, its training value in force-on-force will highlight the need to practice the same drills in live fire.

In order to insure increased readiness, commanders need to frequently evaluate the most difficult and critical tasks a unit has to perform. In evaluating a unit's maintenance readiness report, the surest result is obtained by providing the battalion a move order and inspecting every thing left in the motor pool and 10 percent of each line item when it returns from a road march. The same is true of the ability to mass fires on a target. Such an evaluation drill would move the unit to the field, issue a limited amount of ammunition and require the unit to execute those most critical tasks in its METL. One may say this sounds like the old ORTT and it well may, but it works. All FA units receive quarterly evaluations of Nuclear Assembly capability with a set piece scenario and ratings of pass or fail. As a result, that capability is maintained at a wartime readiness state. Those things in which we cannot accept any degradation of readiness, we constantly drill and evaluate with control at least two levels above the level of execution. I believe that the result of FA unit performance at the NTC tells us we must design and initiate the same intensity of

collective drills for conventional delivery of fires, if we are to be ready on D-Day.

The Field Artillery School needs to relook doctrine, tactics, and techniques in the light of recurring deficiencies. Changes to instruction should be made first. For example, FIST chiefs should be primarily taught templating and its execution in engaging sequential and multiple targets using ambush and trigger-point techniques. Readiness drills should be developed for Battery, Battalion and Division Artillery level exercises and considered for mandatory execution over a set frequency of time. A blue ribbon panel of Field Artillerymen should be convened to recommend standard battle tasks and design the fundamental requirements of set scenarios. The Chief Field Artillery should sell every Division and Corps commander on the value of executing those drills and seek commitment to resource the needed training ranges. Such a program would be measured in effectiveness by observing the trends of units rotating through NTC, Hohenfels, Grafenwoer and the Joint Readiness Training Center.

The ensuing direct involvement with the trends would validate in a laboratory environment those procedures, tactics or techniques which the school is teaching and the field is practicing or ignoring. Lessons learned could then be taken to units not able to go to the NTC as well as overseas training areas. The key point is that the performance of Direct Support battalions in support of brigades as well as General Support Artillery battalions

is as critical as the maneuver task force in terms of combat power. Fire Support needs the same intensity of evaluation.

It is vital to remember how the threat of both the enemy capability and the nature of warfare has changed. The U.S. artillery is outnumbered in tubes alone by Warsaw Pact at least 4 to 1. The increased effectiveness of enemy ADA requires increased interdiction and SEAD targeting. The increased inventory of artillery ammunition from FASCAM to ICM to Smart munitions places additional planning stress on decision makers in the fire support system. Finally, we have created a system which has placed severely increased responsibility and decision skill requirements on the FIST chief and Fire Direction officer, the points at which our system suffers the most from inexperience. Additionally, the gun chief is swamped with commands given through lights, sounds and digital numbers at a rate three times what he used to receive without the reassuring voice of a leader on a phone. There are many human effects of these changes we have not yet identified. One thing is for sure--this system is more sophisticated, more complicated and requires more repetitive training of key personnel than the previous system required.

In fairness, one should credit excellent work being done by many units. This training strategy is being effectively used today by several divisions. Ft. Carson has a 13 km live fire attack lane which combines maneuver, direct support artillery and engineers.⁵ Ft. Polk has a 3 km live fire training lane which is

used to evaluate and retrain company teams.⁵ Those scenario-driven, battle task derived training drills have been constructed because they increase warfighting skills and readiness, not because they help prepare for the NTC. The Field Artillery leadership needs to recognize that every artillery battalion needs the same repetitive, collective drill in order to be ready to go to war on two to four day's notice. If such a system did prove effective, then we could well use the lessons learned in designing and testing future systems.

ENDNOTES

1. Letter, CG, CAC, Ft. Leavenworth, KS to Cmdt, US Army Field Artillery School, dated 12 January 1987.
2. Interview with Douglas B. Campbell, LTC, USAWC Class 1987, Carlisle Barracks, PA, 27 February 1987.
3. George H. Harmeyer, LTC, Making The Training Portion of the USR MORE OBJECTIVE, Pp 20-24.
4. Interview, Deputy Director, USAFAS, DOES, Ft. Sill, Oklahoma, 22 April 1987.
5. Interview, Robert Brown, LTC, USAFAS, Deputy Director, Gunnery Department, Ft. Sill, Oklahoma, 22 April 1987.